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REMARKS/ARGUMENTS

Claims 1-5 and 16 are pending in this Application. By this amendment, Applicant has added new claims 16.

Claims 1-4 were rejected under 35 U.S.C. § 102(e) as being anticipated by Ichikawa (US 6,462,633). Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichikawa et al. (U.S. 6,462,633) in view of Graebner et al. (U.S. 6,049,155). Applicant respectfully traverses the rejections of claims 1-5.

Claim 1 recites:

"A surface acoustic wave device, comprising:
a piezoelectric substrate; and
at least two basic sections disposed on said piezoelectric substrate, each of the at least two basic sections including **an asymmetrical double electrode defining a half wavelength section and having first and second strips with different widths from each other;**
wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately 45 ± 10° or approximately 135 ± 10°, when a center of a respective one of said at least two basic sections is a reference position for the range of angles." (emphasis added)

Applicant's claim 1 recites the feature of "wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately 45 ± 10° or approximately 135 ± 10°, when a center of a respective one of said at least two basic sections is a reference position for the range of angles." With the improved features of claim 1, Applicant has been able to provide a surface acoustic wave device using an asymmetrical double electrode with superior unidirectionality of surface acoustic wave propagation while effectively and easily controlling the reflection amount per basic section (see, for example, the second full paragraph on page 8 of the originally filed Specification).

The Examiner has alleged in the first paragraph on page 2 of the outstanding

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Office Action that Ichikawa teaches that "the location of the resultant vector can be within **any** of the quadrants..." (emphasis added). However, the Examiner has mischaracterized Ichikawa. The portion of Ichikawa relied upon by the Examiner (lines 49-52 of column 8) states in that "it **may be possible** to adjust the **E11**, **E22**, **E33** and **E44** so that these are situated in a **first** quadrant between 90° and 0° on the **A1** side **and** in a **fourth** quadrant side between 0° and 270°" (emphasis added).

First, as noted above, Ichikawa merely teaches that the resultant vector may be located **somewhere within** the first or fourth quadrants. Ichikawa fails to teach or suggest any **specific range of angles** within either the first quadrant or the fourth quadrant, and certainly fails to teach or suggest the specific angles of 45 ± 10° or 135 ± 10° as recited in Applicant's claim 1. The Examiner is reminded that MPEP § 2131.03, "Anticipation of Ranges," states that if the prior art teaches a range which is within, overlapping, or touching the claimed range, then the prior art must teach the claimed range with sufficient specificity in order to anticipate the claimed range. Because Ichikawa completely fails to teach or suggest the claimed ranges of angles of 45 ± 10° or 135 ± 10° as recited in Applicants' claim 1, Ichikawa clearly does **not** anticipate Applicant's claim 1.

Thus, contrary to the Examiner's allegations, Ichikawa fails to teach or suggest the specific feature of "wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately 45 ± 10° or approximately 135 ± 10°, when a center of a respective one of said at least two basic sections is a reference position for the range of angles" as recited in Applicant's claim 1.

Second, in response to Applicant's argument that the Examiner impermissibly combined **Fig. 5** and **Figs. 11A-C** of Ichikawa, the Examiner has alleged in the **Response to Arguments** section on page 2 of the outstanding Office Action that lines 41-52 of column 8 of Ichikawa "clearly indicate that figure 5 is within the ambit of the discussion of figures 11A and B." However, lines 41-52 of column 8 of Ichikawa are

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specifically directed to **only** the embodiment illustrated in **Figs. 11A-C**, and merely disclose that it is "possible to control the phase of the reflected wave by **adjusting the width** of the electrode finger" (emphasis added). This portion of Ichikawa teaches that by adjusting the widths of all the electrode fingers the phase of the reflected wave can be controlled. Nothing in this portion of the Ichikawa teaches or suggests that the electrode fingers of the double electrode could or should have different widths, or that the such an adjustment of the width of the electrode finger could or should be applied to the embodiment shown in **Fig. 5** of Ichikawa.

Thus, **Fig. 5** and **Figs. 11A-C** of Ichikawa are clearly directed to different embodiments, and the Examiner has impermissibly combined the different embodiments of Ichikawa to allegedly teach Applicants' claimed invention.

Therefore, Ichikawa clearly fails to teach or suggest "an asymmetrical double electrode defining a half wavelength section and having first and second strips with different widths from each other" **and** "wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately $45 \pm 10°$ or approximately $135 \pm 10°$, when a center of a respective one of said at least two basic sections is a reference position for the range of angles" as recited in Applicant's claim 1.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 1 under 35 U.S.C. § 102(e) as being anticipated by Ichikawa.

New claim 16 recites:

> "A surface acoustic wave device, comprising:
> a piezoelectric substrate; and
> at least two basic sections disposed on said piezoelectric substrate, each of the at least two basic sections including **an asymmetrical double electrode defining a half wavelength section and having first and second strips with different widths from each other;**
> **wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection v ctors at edges of the first and second strips, is within a**

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> **range of angles of approximately 45 ± 10° or approximately 135 ± 10°,**
> **when a center of a respective one of said at least two basic sections**
> **is a reference position for the range of angles; and**
> > **said asymmetrical double electrode is a reflector."** (Emphasis
> added)

As noted above, Ichikawa clearly fails to teach or suggest the feature of "an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately 45 ± 10° or approximately 135 ± 10°, when a center of a respective one of said at least two basic sections is a reference position for the range of angles" as recited in the present claimed invention.

In addition, claim 16 recites that "said asymmetrical double electrode is a reflector." The **only** reflector disclosed in Ichikawa is the grating reflector 12 (as seen in Fig. 3 of Ichikawa) which does **not** include **any** double electrodes, and certainly does not include an asymmetrical double electrode having first and second strips with different widths from each other as recited in the present claimed invention. Thus, Ichikawa clearly fails to teach or suggest "an asymmetrical double electrode defining a half wavelength section and having first and second strips with different widths from each other" and "said asymmetrical double electrode is a reflector" as recited in Applicant's claim 16.

The Examiner has relied upon Graebner et al. to allegedly cure various deficiencies in Ichikawa. However, Graebner et al. fails to teach or suggest the feature of "an asymmetrical double electrode defining a half wavelength section and having first and second strips with different widths from each other" **and** "wherein an absolute value of a vector angle of a reflection center obtained from a resultant vector generated by synthesizing reflection vectors at edges of the first and second strips, is within a range of angles of approximately 45 ± 10° or approximately 135 ± 10°, when a center of a respective one of said at least two basic sections is a reference position for the range of angles" as recited in Applicant's claims 1 and 16.

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Accordingly, Applicant respectfully submits that Ichikawa and Graebner et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claims 1 and 16 of the present application. Claims 2-5 depend upon claim 1 and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

To the extent necessary, Applicant petitions the Commissioner for a THREE-month extension of time, extending to November 2, 2003, the period for response to the Office Action dated May 2, 2003.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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